ABSTRACT OF THE DISCLOSURE

A speech-based processing system includes a database of PIM data of a user, a set of language models, a learning unit, a recognition server, and a speech application. The learning unit uses a language model learning algorithm to provide language models based on the PIM data. The recognition server recognizes an utterance of the user by using one of the language models. The speech application identifies and accesses a subset of the PIM data specified by the utterance by using the recognition result. The language model learning algorithm may use grammar induction and/or or may train statistical language models based on the PIM data. The language model learning algorithm may be applied to generate language models periodically or on-the-fly during a session with the user.